

Amendments to the Specification:

Please amend paragraph [0001] as follows:

[0001] The present invention relates to a bonded member comprising different types of materials and a production method thereof. More specifically, the present invention relates to a bonded member comprising different types of materials ~~which~~that is usable at high temperatures and a production method thereof.

Please amend paragraph [0002] as follows:

[0002] As a method of bonding different materials, such as a ceramic base material (ceramic base) and a metallic member, to each other, a method such as one using a solder material can be used. However, during a cooling process after high-temperature bonding, thermal stress caused by a difference in thermal expansion coefficient between the different materials or between the solder material used for bonding the different materials together and the materials occurs, ~~thereby causing~~ This causes a separation at the interface between the materials or ~~causing~~causes cracks in the vicinity of the interface if one of the materials is brittle, so that desired bonding strength and air tightness cannot be obtained in some cases. Since products (different materials bonded member) having the aforementioned troubles, broken during a production process, must be discarded as defective products, there is an unfavorable increase in production costs. Further, if the product is subjected to thermal cycles in use, for example cycling using a high-temperature heater and so on, these troubles occur after use ~~for a certain time period to cause~~causing a deterioration of the reliability of the product.

Please amend paragraph [0004] as follows:

[0004] Meanwhile, in these methods, unless some measures are taken against thermal stress which occurs at the interface between the bonded materials so as to reduce the thermal stress, cracks are often formed in a base material, which is vulnerable to the thermal stress and separation occurs at the interface. That is, not only can bonding

strength between the bonded materials be influenced, but also various other properties that are required from composite bonded members under use in specific fields, such as air tightness, may be influenced. Particularly, it is very difficult to bond a low-strength base material such as aluminum nitride and a member composed of metal or the like to each other ~~with restraining~~ while reducing the occurrence of the above problems.

Please amend paragraph [0008] as follows:

[0008] For solving the above problems, it has been attempted to devise the bonding structure. For example, JP-A-10-209255 discloses a bonding structure of a ceramic base 1 and a connector for a power supply 16 as shown in FIG. 4 as a susceptor for disposing a semiconductor wafer. A hole 14 is provided in a ceramic base material 1. From the hole 14, a metallic member 17 comprising a metal such as Mo, which has a thermal expansion coefficient approximate to that of the ceramic base material 1, is embedded with a portion thereof beforehand. Further, in the hole 14, a cylindrical atmosphere protector 10 is inserted, and inside the protector 10, a connector 16 for supplying power and a low thermal expansion material 15 are inserted. The protector 10 and the connector 16 are hermetically bonded together with a solder material 5, and the material 15 and the protector 10 are hermetically bonded to the metallic member 17 with the solder material 5.

Please amend paragraph [0012] as follows:

[0012] According to the present invention, there is provided a different materials bonded member including a ceramic base and a metallic member, which are bonded to each other with a solder material including Au. The solder material is disposed on a bonding surface of the ceramic base, with an active metal layer or a metalized layer interposed between the ceramic base and the solder material. The metalized layer includes a metal, which is active to a ceramic constituting the ceramic base. The solder material is heated and melted to form a pre-coat layer adhering to the bonding surface. The metallic member is disposed on a surface of the pre-coat layer, with a barrier layer

interposed between the ceramic base and the metallic member. The barrier layer includes a material, which protects against or suppresses the diffusion of the metal constituting the metallic member into the solder material. A bonded part is formed by solidifying the pre-coat layer after it is heated and melted under the temperature conditions of between 1070 and 1150°C to bond the ceramic base and the metallic member.

Please amend paragraph [0013] as follows:

[0013] Furthermore, according to the present invention, there is provided a different materials bonded member including a ceramic base and a metallic member which are bonded to each other with a solder material including Au. The solder material includes a metal, which is active to a ceramic constituting the ceramic base, and is disposed on a bonding surface of the ceramic base, and is heated and melted to form a pre-coat layer adhering to the bonding surface. The metallic member is disposed on a surface of the pre-coat layer, with a barrier layer interposed between the pre-coat layer and the metallic member. The barrier layer includes a material, which protects against or suppresses the diffusion of the metal constituting the metallic member into the solder material, and a A bonded part is formed by solidifying the pre-coat layer after it is heated and melted under the temperature conditions of between 1070 and 1150°C to bond the ceramic base and the metallic member.

Please amend paragraph [0016] as follows:

[0016] In the present invention, it is preferable that the hardness of the bonded part is at most Hv_{0.1}100, the barrier layer is a Cr layer and the material of the metallic member is at least one material selected from the group consisting of Ni, Co, Fe and Cr.

Please amend paragraph [0022] as follows:

[0022] A different materials bonded member according to the present invention is suitably used as a susceptor for mounting a semiconductor wafer, which has a function of a heater, a function of an electrostatic chuck or serves both of these functions.

Please amend paragraph [0043] as follows:

[0043] FIGS. 1(a) and 1(b) are cross-sectional views of the components of a different materials bonded member and show one embodiment of a production method according to the present invention. For producing a different materials bonded member in this embodiment, first of all, a solder material 5 is disposed on a bonding surface 9 of the ceramic base 1, which has an active metal layer 4 including a metal which is active to a ceramic constituting the ceramic base 1 disposed thereon, and the solder material 5 is heated and melted to form a pre-coat layer 6 adhering to the bonding surface 9. Then, the metallic member 7 is disposed on a surface of the pre-coat layer 6, with a barrier layer 8 interposed between the solder material 5 and the metallic member 7. The barrier layer 8 includes a material which protects against or suppresses the diffusion of the metal constituting the metallic member 7 into the solder material 5. A bonded part is formed by solidifying the pre-coat layer 6 after it is heated and melted under the temperature conditions of between 1070 and 1150°C to bond the ceramic base 1 and the metallic member 7.